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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
LI, AIMEE J	

ART UNIT	PAPER NUMBER
2183	4

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/973,429	GROCHOWSKI ET AL.	
	Examiner	Art Unit	
	Aimee J Li	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 29-50 have been considered. Claims 1-28 have been cancelled as requested.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: Pre Amendment A as received on 09 October 2001 and IDS as received on 09 October 2001.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 223 on page 8, line 14. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figure 2, element 212. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

(e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the

nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(k) Sequence Listing, See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

6. The disclosure is objected to because of the following informalities: Applicant has a duty to disclose all related applications and their respective status. See section (b) above.

Appropriate correction is required.

Double Patenting

7. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

8. A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

9. Claim 43 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 4 of prior U.S. Patent No. 6,353,883. This is a double patenting rejection.

10. Claims 29-32, 35, 37-38, and 42-43 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 2-5, 12, 13-14, and 16-18 of copending Application No. 09/884,718. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

12. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

13. Claims 39, 42, and 44 are rejected under 35 U.S.C. 102(e) as being taught by Yeh et al., U.S. Patent Number 5,903,750 (herein referred to as Yeh).

14. Referring to claim 39, Yeh has taught a processor comprising:

a. A predicate history table to store historical information associated with a predicate (Yeh column 6, lines 55-59); and

b. A predicted predicate value (PPV) calculator to calculate a PPV (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

15. Referring to claim 42, Yeh has taught a pipeline to receive the PPV, and to conditionally execute a predicated instruction depending on the PPV (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

16. Referring to claim 44, Yeh has taught wherein the calculator includes a selector to, based on a confidence level, select the PPV to be based on historical information (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh et al., U.S. Patent Number 5,903,750 (herein referred to as Yeh) in view of Christie, U.S. Patent Number 6,009,512 (herein referred to as Christie).

19. Referring to claim 29, Yeh has taught A method of executing a sequence of instructions comprising:

a. Determining a predicted predicate value (PPV) for a predicate (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A)

b. Conditionally executing a predicated instruction depending on the PPV (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A)

c. Comparing the APV to the PPV (Yeh column 1, line 54 to column 2, line 17 and column 5, lines 8-17); and

d. Flushing a pipeline if the APV and the PPV are unequal (Yeh column 1, line 54 to column 2, line 17 and column 5, lines 8-17).

20. Yeh has not explicitly taught executing a COMPARE instruction to determine an actual predicate value (APV) for the predicate. However, Yeh has taught that predication is used but not the exact details of executing predicate instructions (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A). Christie has explicitly taught executing a COMPARE instruction to determine an actual predicate value (APV) for the predicate (Christie Abstract; column 3, lines 11-25; column 4, line 26 to column 5, line 32; column 10, lines 15-64; Figure 6; and Figure 11). A person of ordinary skill in the art at the time the invention was made would have recognized

that through the use of predication, the wasted cycles due to conditional branch execution would be eliminated (Christie column 3, lines 22-25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time this invention was made to incorporate the predicate execution unit of Christie in the device of Yeh to minimize wasted cycles.

21. Referring to claim 31, Yeh has taught wherein flushing the pipeline comprises flushing only a backend portion of the pipeline (Yeh column 1, line 54 to column 2, line 17). In regards to Yeh, flushing the instructions after the branch is the same as flushing the backend portion of the pipeline.

22. Referring to claim 32, Yeh has taught updating historical information corresponding to the predicate in a predicate history table after comparing the APV to the PPV (Yeh column 5, lines 17-24).

23. Referring to claim 33, Yeh has taught wherein conditionally executing the predicated instruction includes executing the predicated instruction if the PPV is true (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

24. Referring to claim 34, Yeh has taught wherein conditionally executing the predicated instruction (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A). Yeh has not explicitly taught treating the predicated instruction like a no-op if the PPV is false. However, Yeh has taught that predication is used but not the exact details of executing predicate instructions (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A). Christie has explicitly taught treating the predicated instruction like a no-op if the PPV is false (Christie column 3, lines 15-17). A person of ordinary skill in the art at the time the invention was made would have recognized that through the use of predication, the wasted cycles due to conditional

branch execution would be eliminated (Christie column 3, lines 22-25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time this invention was made to incorporate the predicate execution unit of Christie in the device of Yeh to minimize wasted cycles.

25. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh in view of Christie as applied to claim 29 above, and further in view of Heuring and Jordan's Computer Systems Design and Architecture (herein referred to as Heuring).

26. Referring to claim 30, Yeh has taught flushing the pipeline. Heuring has taught executing the predicated instruction after flushing the pipeline (Heuring page 228, paragraph 3). A person of ordinary skill at the time the invention was made would have recognized that executing the predicated instruction after flushing the pipeline is needed to ensure normal execution of the pipeline is resumed after a misprediction has occurred. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate executing the predicated instruction after flushing the pipeline as taught by Heuring in the device of Yeh in view of Christie to ensure normal execution of the pipeline after a misprediction.

27. Claims 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh et al., U.S. Patent Number 5,903,750 (herein referred to as Yeh) in view of Heuring and Jordan's Computer Systems Design and Architecture (herein referred to as Heuring).

28. Referring to claim 35, Yeh has taught a processor comprising:

a. A predicate history table (Yeh column 5, lines 17-24)

b. A predicted predicate value (PPV) calculator having a first input coupled to an output of the predicate history table and a second input coupled to an output of the register file (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

29. Yeh has not explicitly taught a register file. Heuring has taught a register file (Heuring pages 174-175, section 4.6.2; page 200, paragraph labeled The Register File; and Figures Data Path and Register File). A person of ordinary skill in the art at the time the invention was made would have recognized that register files are necessary for data to be stored and retrieved from. The register file is faster than external and main memory and easier to access later in a process, thereby minimizing delay due to retrieving data. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the register file of Heuring in the device of Yeh to store and retrieve data faster.

30. Referring to claim 36, Yeh has taught:

a. A IP select circuit having an output coupled to the predicate history table (Yeh column 4, lines 17-24);

b. An instruction decoder having an output coupled to input of the IP select circuit and the register select circuit (Yeh column 1, lines 16-37; column 4, lines 38-48; column 5, lines 8-13).

31. Yeh has not explicitly taught a register select circuit having an output coupled to the register file. Heuring has taught a register select circuit having an output coupled to the register file (Heuring pages 174-175, section 4.6.2; page 200, paragraph labeled The Register File; and Figures Data Path and Register File). A person of ordinary skill in the art at the time the invention was made would have recognized that register files are necessary for data to be stored

and retrieved from. The register file is faster than external and main memory and easier to access later in a process, thereby minimizing delay due to retrieving data. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the register file of Heuring in the device of Yeh in order to store and retrieve data faster.

32. Referring to claim 37, Yeh has taught a pipeline having a PPV input coupled to an output (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A) and an actual predicate value (APV) output coupled to an input of the predicate history table (Yeh column 5, lines 17-24). Yeh has not explicitly taught a register file. Heuring has taught a register file (Heuring pages 174-175, section 4.6.2; page 200, paragraph labeled The Register File; and Figures Data Path and Register File). A person of ordinary skill in the art at the time the invention was made would have recognized that register files are necessary for data to be stored and retrieved from. The register file is faster than external and main memory and easier to access later in a process, thereby minimizing delay due to retrieving data. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the register file of Heuring in the device of Yeh in order to store and retrieve data faster.

33. Referring to claim 38, Yeh has not taught a device having a first input coupled to the APV output of the pipeline, a second input coupled to an output of the register file, and an output coupled to a flush input of the pipeline (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A). Heuring has taught an XOR gate (Heuring page 72-73, paragraph labeled Data Transmission in the Computer). A person of ordinary skill in the art at the time the invention was made would have recognized that XOR gates are needed for data transmission, to selectively

transmit certain signals between elements (Heuring page 72, beginning of paragraph labeled Data Transmission in the Computer). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the XOR gate of Heuring in the device of Yeh in order to selectively transmit certain data signals.

34. Claims 40, 41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh et al., U.S. Patent Number 5,903,750 (herein referred to as Yeh) in view of Natarjan et al., U.S. Patent Number 5,857,104 (herein referred to Natarjan).

35. Referring to claim 40, Yeh has not taught a speculative predicate register file to store the PPV. Natarjan has taught a speculative predicate register file to store the PPV (Natarjan column 5, lines 45-51). A person of ordinary skill in the art at the time the invention was made would have recognized that the speculative predicate value needed to be stored in order to be used in future cycles of the instruction. Therefore, it would have been obvious to a person of ordinary skill in the art at the time this invention was made to incorporate the speculative predicate register file of Natarjan in the device of Yeh to store data.

36. Referring to claim 41, Yeh has taught a pipeline to receive the PPV, and to conditionally execute a predicated instruction depending on the PPV (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

37. Referring to claim 43, Yeh has taught wherein the pipeline includes an actual predicate value output to provide an actual predicate value to the predicate history table (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

38. Claims 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarjan et al., U.S. Patent Number 5,857,104 (herein referred to Natarjan) in view of Yeh et al., U.S. Patent Number 5,903,750 (herein referred to as Yeh).

39. Referring to claim 45, Natarjan has taught a system comprising:

a. Memory to store a predicated instruction (Natarjan column 4, lines 42-51 and Figure 4)

b. A bus to transfer the predicated instruction from the memory (Natarjan column 4, lines 42-51 and Figure 4).

40. Natarjan has not taught a processor to receive the predicated instruction and to calculate a predicted predicate value (PPV) for the predicate. Yeh has taught a processor to receive the predicated instruction and to calculate a predicted predicate value (PPV) for the predicate (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A). A person of ordinary skill in the art at the time the invention was made would have recognized that predicate prediction improves processor performance (Yeh column 2, lines 18-20). Therefore, it would have been obvious to a person of ordinary skill in the art at the time this invention was made to incorporate the predicate prediction of Yeh in the device of Natarjan to improve processor performance.

41. Referring to claims 46, 47, and 48, Natarjan has not taught:

a. Wherein the processor comprises a predicate history table to store historical information associated with the predicate (Applicant's claim 46).

b. Wherein the processor further comprises a pipeline to receive the PPV, and to conditionally execute the predicated instruction depending on the PPV (Applicant's claim 47).

c. Wherein the processor further comprises a pipeline to receive the PPV, and to conditionally execute the predicated instruction depending on the PPV (Applicant's claim 48).

42. Yeh has taught:

a. Wherein the processor comprises a predicate history table to store historical information associated with the predicate (Yeh column 6, lines 55-59).

b. Wherein the processor further comprises a pipeline to receive the PPV, and to conditionally execute the predicated instruction depending on the PPV (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

c. Wherein the processor further comprises a pipeline to receive the PPV, and to conditionally execute the predicated instruction depending on the PPV (Yeh column 6, lines 55-59; column 7, lines 13-59; and Figure 2A).

43. A person of ordinary skill in the art at the time the invention was made would have recognized that predicate prediction improves processor performance (Yeh column 2, lines 18-20). Therefore, it would have been obvious to a person of ordinary skill in the art at the time this invention was made to incorporate the predicate prediction of Yeh in the device of Natarjan to improve processor performance.

44. Referring to claim 49, Natarjan has taught wherein the memory is main memory (Natarjan column 4, lines 42-51; column 6, lines 1-21) and the bus is a system bus (Natarjan column 4, lines 42-51; column 6, lines 1-21).

45. Referring to claim 50, Natarjan has taught wherein the memory is external memory (Natarjan column 4, lines 42-51; column 6, lines 1-21).

Conclusion

46. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR § 1.111(c).

a. Yeh et al., U.S. Patent Number 6,240,510, has taught a predicate prediction unit.

b. Mahlke et al., "Effective Compiler Support for Predicated Execution Using the Hyperblock" IEEE ©1992, has taught predicting predicates.

c. August et al., "Architectural Support for Compiler-Synthesized Dynamic Branch Prediction Strategies: Rationale and Initial Results" IEEE ©1997, has taught predicates and predicate prediction.

d. Mahlke et al., "Characterizing the Impact of Predicated Execution on Branch Prediction" ACM ©1994, has taught predicates.

e. Tyson, "The Effects of Predicated Execution on Branch Prediction" ACM ©1994, has taught predicates.

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J Li whose telephone number is (703) 305-7596. The examiner can normally be reached on M-T 7:30am-5:00pm.

48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

49. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Aimee J. Li
Examiner
Art Unit 2183

September 4, 2003

EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100